

NOAA's Engagement with U.S. CLIVAR

NOAA/OAR Climate Program Office

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Climate Variability and Predictability

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NOAA Earth System Science

Annarita Mariotti and Dan Barrie

NOAA Modeling, Analysis, Prediction, and Projections

David Legler and Diane Stanistki

NOAA Climate Observations

U.S. CLIVAR Summit

Denver, CO

8 - 11 July 2013



NOAA's Vision, Mission, and Next Generation Strategic Plan (NGSP)

Developed through engagement with NOAA stakeholders and employees. Released: Dec 2010

NOAA's Mission: Science, Service, and Stewardship

Vision: Resilient Ecosystems, Communities, and Economies

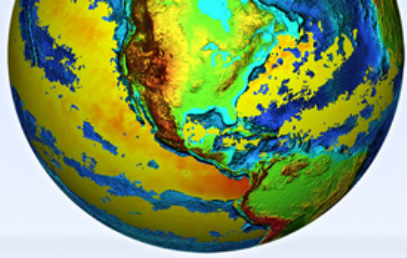
NOAA's Goals:

- Climate Adaptation and Mitigation
- Weather-Ready Nation
- Healthy Oceans
- Resilient Coastal Communities and Economies

NOAA's Enterprise Objectives:

- Science & Technology Enterprise
- Engagement Enterprise
- Organization & Administration Enterprise

Read or download the plan:
www.ppi.noaa.gov/ngsp/



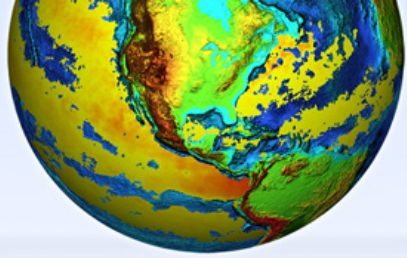
Climate Goal Strategy

NOAA Strategic Plan

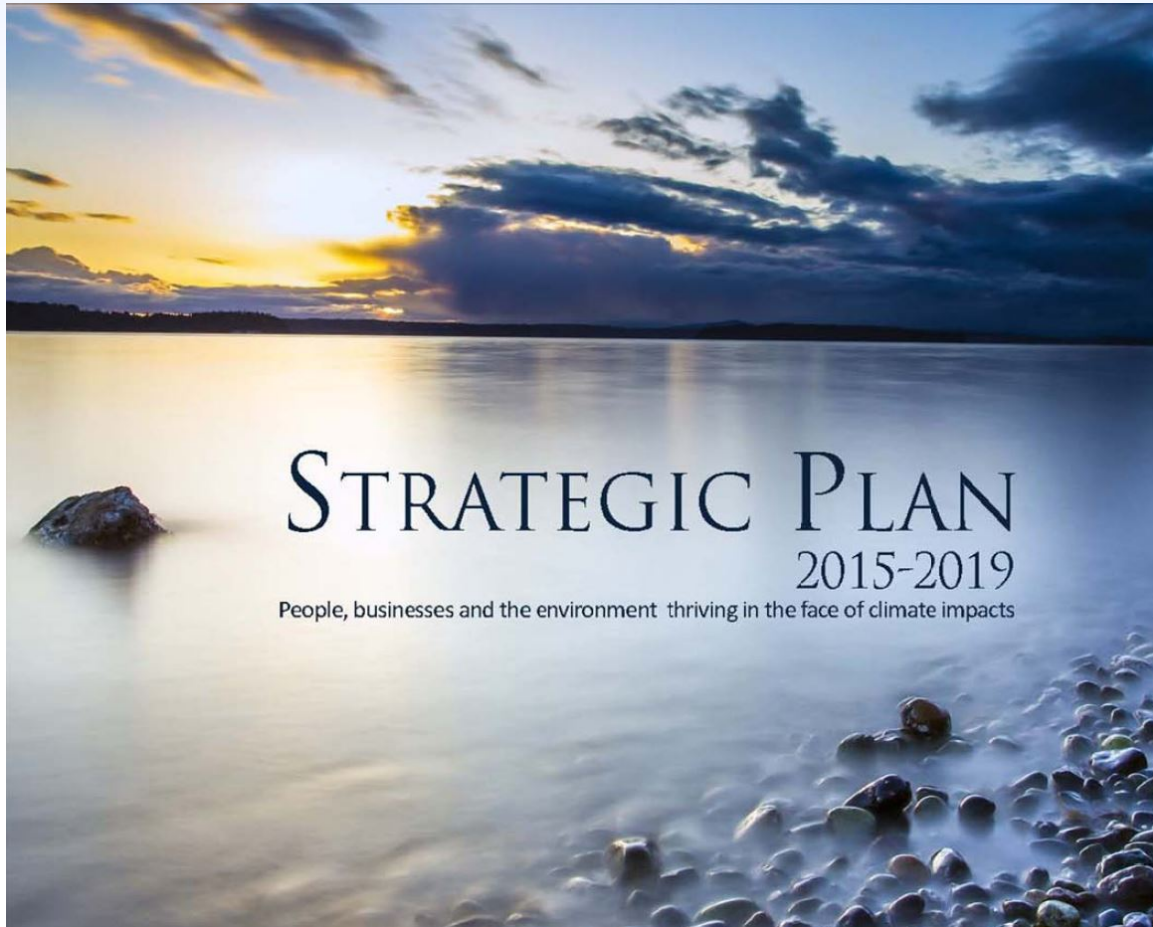
Climate Goal: An informed society anticipating and responding to climate and its impacts

Climate Goal Strategic Plan Objectives:

1. Improved scientific understanding of the changing climate system and its impacts
2. Assessments of current and future states of the climate system that identify potential impacts and inform science, service, and stewardship decisions
3. Mitigation and adaptation efforts supported by sustained, reliable, and timely climate services
4. A climate-literate public that understands its vulnerabilities to a changing climate and makes informed decisions



CPO Strategic Plan



- Released June 27, 2014
- Developed in conjunction with internal and external stakeholders
- The Plan guides our direction for the next 5 years



CPO Strategic Goals Framework

PARTNERSHIPS

Promote partnerships that build on mutual strengths and interests, and advance the value and impact of CPO work.

INTEGRATED CLIMATE RESEARCH

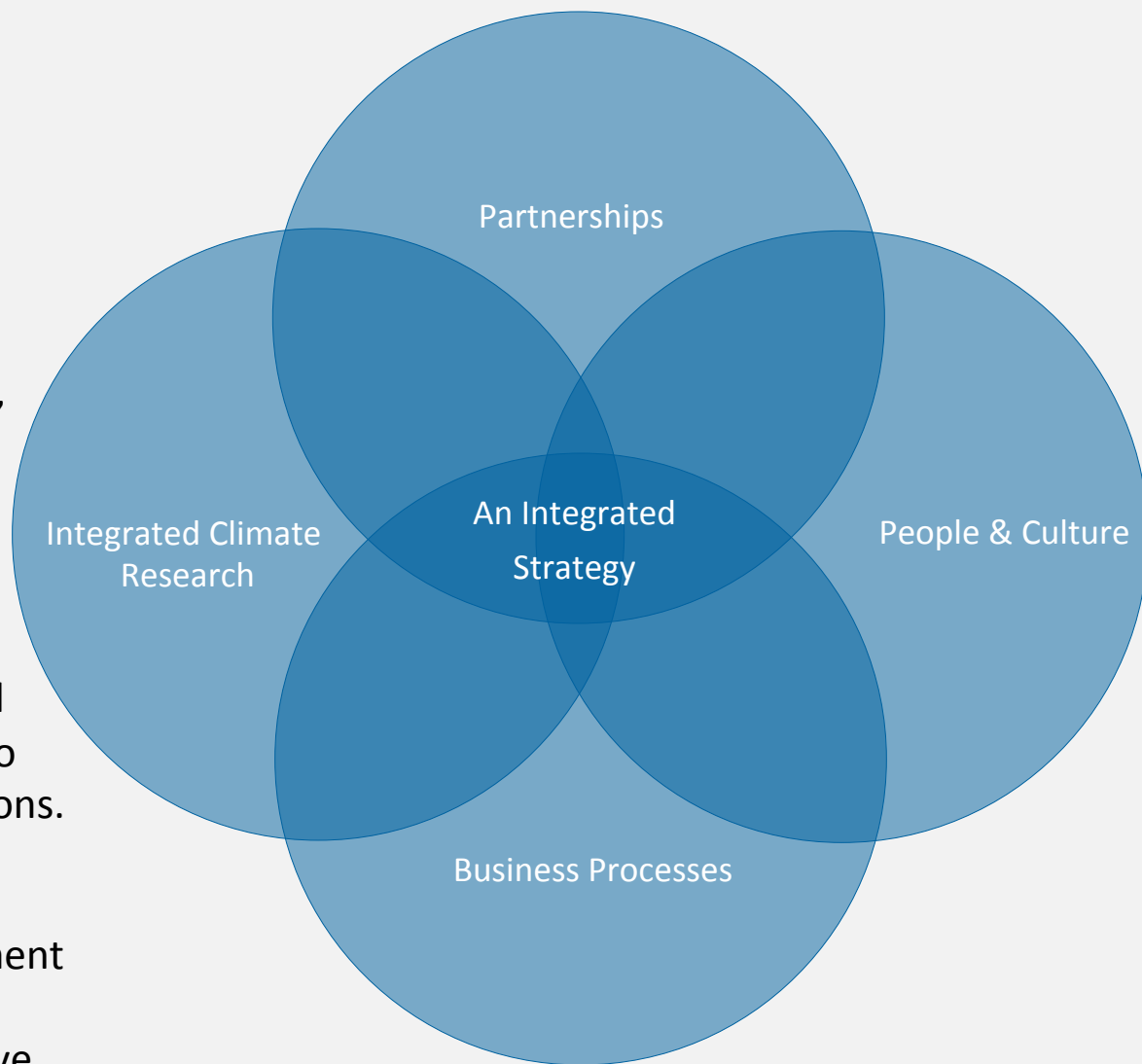
Achieve a fully integrated research program to advance scientific understanding, monitoring, modeling, and prediction of climate and its impacts to enable effective decisions.

PEOPLE & CULTURE

Empower people and their role in the organization to sustain a highly skilled and competent workforce prepared to deal with changing needs and conditions.

BUSINESS PROCESSES

Adapt CPO's infrastructure, management practices, and business processes to sustain high performing and responsive programs, products, and services.



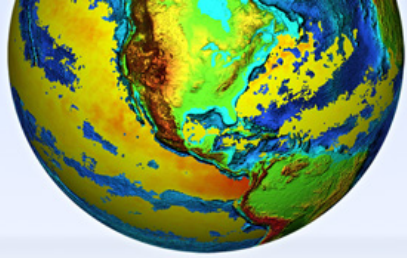


Societal Challenge Projects

- Weather & Climate Extremes
- Climate Impacts on Water Resources
- Coasts & Climate Resilience
- Sustainability of Marine Ecosystems

Foundational Capabilities

- Observing Systems, Climate Monitoring, and Data Stewardship
- Understanding and Modeling
 - *Earth System Science*
 - *Predictions & Projections*
- Informing Decisions
 - *Public Communication, Education & Engagement*
 - *Integrated Information Systems*

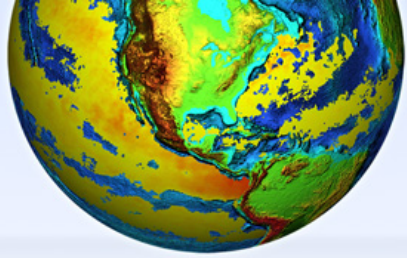


NOAA Climate Program Office

(www.cpo.noaa.gov/cpo_pa/)

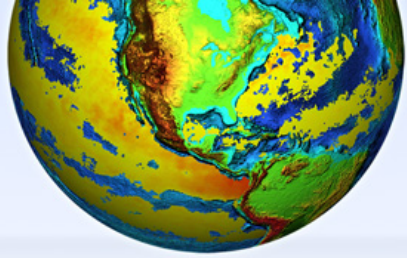
Wayne Higgins, Director

- **Climate Observations and Monitoring (COM)** - designs, deploys, and maintains an integrated global network of oceanic and atmospheric observing instruments to produce continuous records and analyses of a range of ocean and atmosphere parameters. **Lead: David Legler**
- **Earth System Science (ESS)** – provides process-level understanding of the climate system through observation, modeling, analysis, and field studies to support the development of improved climate models and predictions in support of NOAA's mission. **Lead: Jim Todd**
- **Modeling, Analysis, Predictions, and Projections (MAPP)** – aims to enhance the capability to predict and project variability and change in Earth's climate system; focusing on the coupling, integration, and application of Earth system models and analyses. **Program Manager: Annarita Mariotti**
- **Climate and Societal Interaction (CSI)** – provides leadership in developing interdisciplinary science and services, including assessments, for application in climate-sensitive sectors and regions. **Lead: Adam Parris**



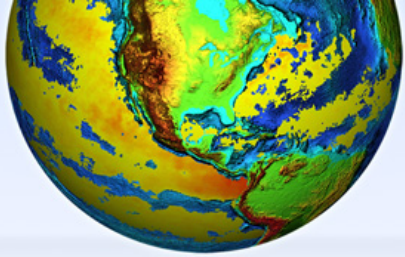
Recent U.S. CLIVAR-Relevant Activities Supported by NOAA

- Process Studies
 - Past: EPIC, NAME, VOCALS; Current: DYNAMO, AMOC, CPTs
- Modeling
 - CMEP 1 & 2, CMIP5
 - Re-analyses: 20CR, CFSR
 - NMME, and Intraseasonal Variability Hindcast Experiment (ISVHE) for MJO prediction
 - IASCLIP (Intra-Americas Study of Climate Processes)
 - Climate Test Bed prediction projects
 - Drought understanding, monitoring, prediction
 - Ice Sheet calving
- Sustained Ocean Observations
 - Argo, Tropical moored array (e.g. TAO), WBTS, and others
- NOAA Task Forces
 - Organizing 6 Task Forces in areas relevant to US CLIVAR



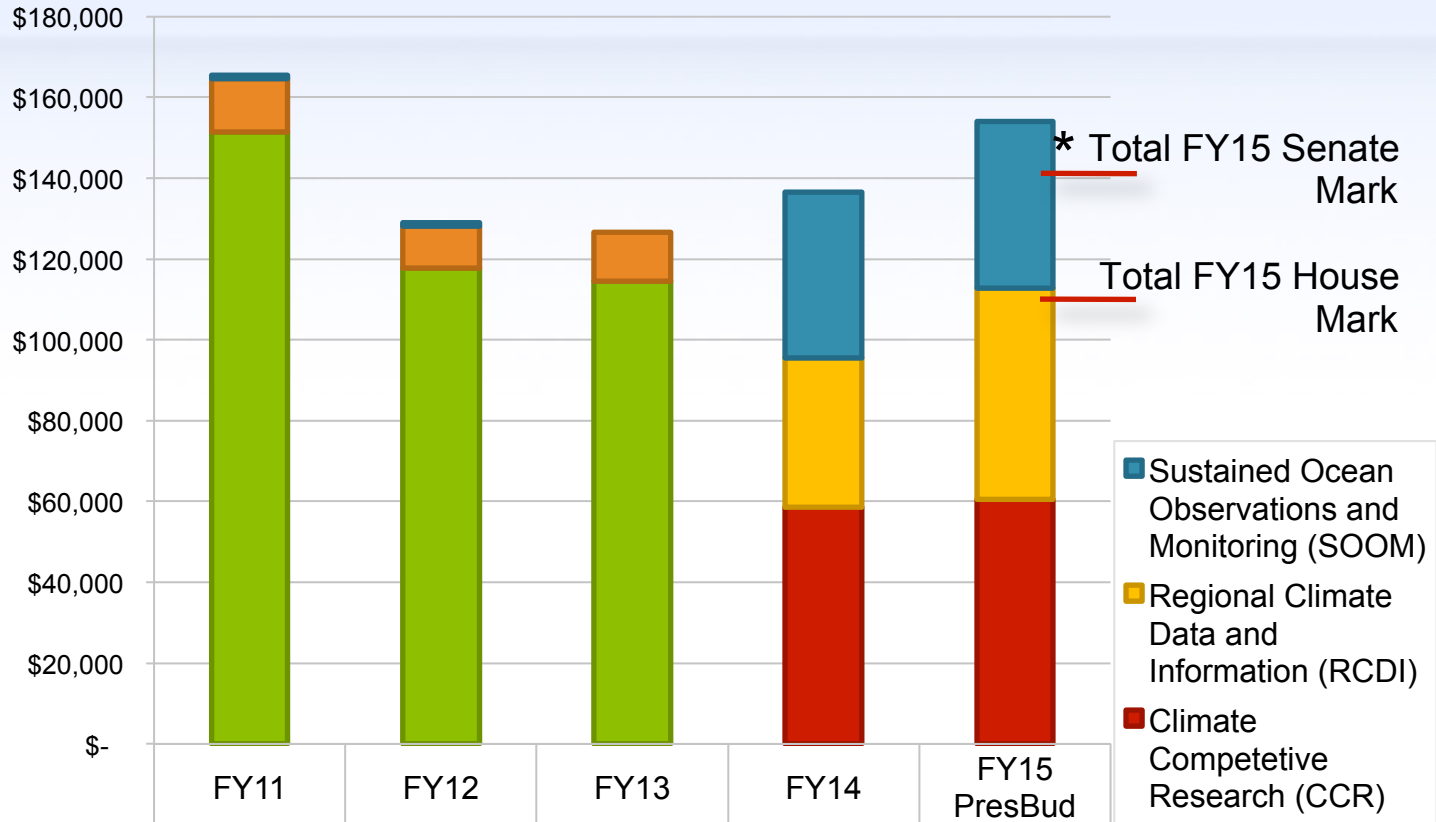
Long-range Climate Research Areas Related to U.S. CLIVAR

- Sustaining , evolving, and enhancing the ocean climate observing system (including the Arctic) - Tropical Pacific Observing System-TPOS 2020 project is getting underway-will be a NOAA focus.
- Observing system experiments, observing system simulation experiments
- Predictability, prediction and projections: improving understanding of climate processes, their predictability and their representation in models and prediction systems
- Increased focus on process-oriented metrics for model development
- Drought understanding, predictability and prediction.
- Climate re-analyses
- Information to support decision-making on a regional scale



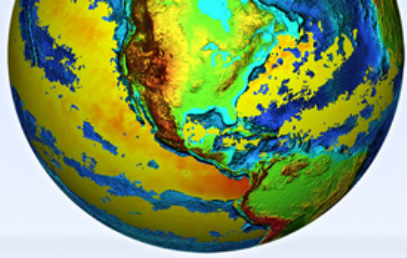
Climate Program Office Budget (\$000)

* FY15 = President's Budget. However, the House Mark-up has CPO *cut* \$29M from FY14; Senate has \$3M *increase* over FY14.



	FY11	FY12	FY13	FY14	FY15 PresBud
Sustained Ocean Observations and Monitoring (SOOM)				\$41,000	\$41,347
Regional Climate Data and Information (RCDI)				\$37,000	\$52,312
Climate Competitive Research (CCR)				\$58,500	\$60,504
Climate Operations (CO)	\$911	\$908	\$-		
Climate Data & Information (CDI)	\$13,049	\$10,406	\$12,115		
Competitive Research Program (CRP)	\$151,491	\$117,685	\$114,519		

- Sustained Ocean Observations and Monitoring (SOOM)
- Regional Climate Data and Information (RCDI)
- Climate Competitive Research (CCR)
- Climate Operations (CO)
- Climate Data & Information (CDI)
- Competitive Research Program (CRP)



FY15 President's Budget: Increases for NOAA Climate (partial list)

Regional Climate Data and Information: National Integrated Drought Information System (NIDIS) +1.9M

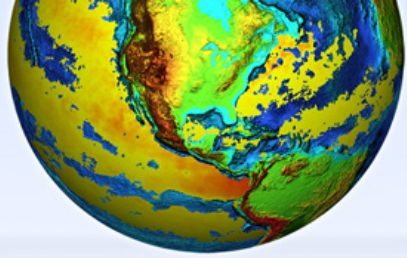
- Support competitive research grants and contracts to develop the Regional Drought Early Warning System and apply it to the Pacific Northwest, the Midwest agricultural belt, the Southern Plains states (TX, NM, OK), and the Carolinas.
- Build on existing activities in California to support RDEWS and provide information for drought planning across the state to develop a comprehensive statewide system. This funding will also support research projects that address coping with drought across a range of sectors.

Regional Climate Data and Information: Assessments +\$3.97M

- Support climate assessments at national and regional scales in compliance with The Global Change Research Act of 1990. This Act requires the President (through a Federal interagency body) to prepare and submit to Congress regular climate assessments that examine the latest climate research, uncertainty, effects of global change, and emerging trends.

Regional Climate Data and Information: Regional Integrated Sciences and Assessments (RISA) +\$4.64M

- Expand its regional research and information services.
- OAR will support external research and development of new information about the impacts of climate on communities, natural and managed resources, infrastructure, transportation, and health.



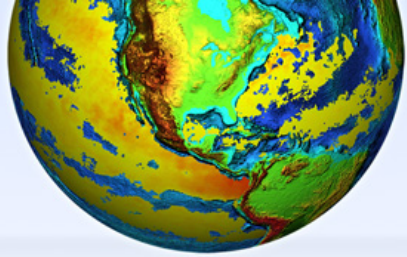
FY15 President's Budget: Increases for NOAA Climate (partial list, cont'd.)

Regional Climate Data and Information: NOAA Arctic Research Program +\$2.19M

- Support further development of NOAA's Arctic Observing Network and informational products related to Arctic Ocean changes, sea-ice extent, eco-system evolution, and Arctic to mid-latitude weather/ climate linkages.

Regional Climate Data and Information: Climate Resilience Toolkit in support of the President's Climate Action Plan via the Climate.gov Portal +\$2.3M

- Continue supporting development of a Climate Resilience Toolkit and the NOAA Climate.gov Portal, which will facilitate public online access to NOAA's climate data, information, and services.



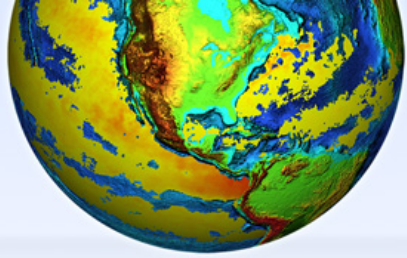
How US CLIVAR Can Engage & Provide Value

US CLIVAR:

- Organizes/Coordinates the research community to establish the needs and requirements for future scientific advancement (and current gaps) and to express where additional resources are needed.
- Helps coordinate interagency response to community research initiatives
- Helps to organize the community to deliver research results after resources are allocated.
- Helps link US research to international research initiatives

Examples (from Climate Observations):

- NOAA will continue to need updated requirements for observation systems (e.g. OOPC, GCOS mechanisms)
- NOAA will continue to look to the research community to initiate new observing activities (e.g., TAO, PIRATA, Argo arguably all emerged from research programs)
- NOAA will need support in the area of technology development (e.g., Deep Argo)



Items of Interest

- NOAA CPO FY15 Federal Funding Opportunity (FFO) is likely to be released this month
 - There will be competitions under each of the CPO programs
 - Please watch <http://www.cpo.noaa.gov/> for additional information on the FFO
- Virtual Workshop on "Bias Corrections in Subseasonal to Interannual Predictions"
 - Organized by the Climate Prediction Task Force
 - September 30 - October 2, 2014
 - More information about the workshop can be found at: http://cpo.noaa.gov/MAPP/CPTF_workshop
 - Abstract submission is July 7th through August 25th

Thank You

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NOAA Climate Program Office

